

REMARKS

This communication is a full and timely response to the aforementioned final Office Action dated July 19, 2007. By this communication, claim 1 is amended and claim 13 is added. Claims 1, 3, and 4-13 remain pending, while claims 5-9 are withdrawn and claim 2 was previously cancelled. Reconsideration and allowance of this application are respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 1, 3, 4, and 10-12 were rejected under 35 U.S.C. §103(a) as unpatentable over *Naone et al* (U.S. Patent No. 6,898,215) in view of *Yang et al* (U.S. Patent No. 6,716,378). Applicants respectfully traverse this rejection.

The Patent Office (PTO) alleges that the *Naone* patent discloses all features recited in claim 1 except for an inorganic insulating film and relies on the *Yang* patent in an effort to remedy this deficiency.

As discussed previously, the *Yang* patent discloses a method of preparing hierarchically ordered structures by filling a mold with a self-assembled mixture of hydrolyzed inorganic species and amphiphilic block copolymers and applying pressure to the mixture. Polymerization of the inorganic species within the mixture results in a mesoscopically structured material having molded features. A mesoporous material can be produced by subsequent thermal removal of the copolymers. In essence, the *Yang* patent merely discloses the use and production of mesoporous silica.

Applicants have amended claim 1 to recite the process of obtaining the inorganic insulating film. As a result of this process, the inorganic film has very high controllability, an excellent adhesion, great mechanical strength and an ultimately

low dielectric constant. Because the formation can be carried out at a low temperature, the insulating film can be formed having a high reliability without influencing a substrate having a compound semiconductor layer that is apt to be damaged at a high temperature.

Another advantage of a semiconductor laser device that comprises the inorganic insulating film as claimed is that the pad size of the device is reduced and the device exhibits a high modulating speed.

Dependent claim 3 recites that the cylindrical vacancies are formed such that the cylindrical vacancies of adjacent porous structures are oriented in different directions. This feature is disclosed, for example, on page 21, lines 9-16 of Applicants' disclosure and illustrated in exemplary Figure 9.

In the last paragraph beginning on page 3 of the Office Action, the PTO alleges that the *Yang* patent discloses a porous structure having features that are analogous to Applicants' claimed cylindrical vacancies. Upon close inspection, Applicants could find no evidence that the disclosure of the *Yang* patent supports the PTO's position. For example, Figures 2A through 5C illustrate various configurations of the porous structure which all appear to be aligned in the same direction. Moreover, the disclosure that describes these Figures, does not appear to articulate or contemplate that the microsporous framework as illustrated has porous structures that are oriented in different directions.

The PTO alleges that the aforementioned feature of the cylindrical vacancies reads on col. 3, lines 8-20 of the *Yang* patent. This citation merely describes that the mesoporous materials and mesoscopic structures exhibit multiple length ordering. There is no evidence nor would one of ordinary skill conclude that multiple length

ordering translates into the mesoporous materials and mesocopic structures being oriented in different directions. For these reasons, Applicants respectfully submit that one of ordinary skill would have had no reason to look to the *Yang* patent in order to remedy the deficiencies of the *Naone* patent, since the *Yang* patent fails to disclose an inorganic insulating film having cylindrical vacancies that are oriented in different directions as recited in Applicants' claims.

In summary, the *Naone* and *Yang* patents when applied individually or in the combination relied upon by the PTO fails to disclose or suggest every element recited in Applicants' claims. For these reasons, a *prima facie* case of obviousness has not been established.

The PTO is reminded that the Office has the initial burden of establishing a **factual basis** to support the legal conclusion of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in KSR Int'l v. Teleflex Inc., 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some **articulated reasoning with some rational underpinning** to support the legal conclusion of obviousness." In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (emphasis added). Based on the foregoing discussion, withdrawal of the rejection to claims 1, 4, and 10-12 be withdrawn.

Applicants have added claim 13, which encompasses the features recited in claims 1 and 3. As a result, favorable consideration and allowance of claim 13 are respectfully requested.

Conclusion

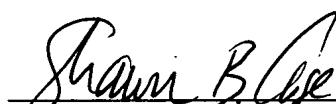
Based on at least the foregoing amendments and remarks, Applicants submit that claims 1, 3-4, and 10-13 are allowable, and this application is in condition for allowance. In the event the instant application can be placed in even better form, Applicants request that the undersigned attorney be contacted at the number below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: October 31, 2007

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To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned.

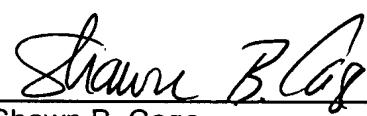
The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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